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TWO NEW SHREWS FROM WEST-CENTRAL
CALIFORNIA.

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In the summer of 1936, while trapping mammals in Monterey County, California, the writer procured a shrew of the *Sorex ornatus* group from the salt-marsh at the mouth of the Salinas River. Comparative examination of the specimen at the Museum of Vertebrate Zoology, Berkeley, California, indicated that it differed appreciably from other known Californian races of the group. It was therefore determined that an attempt should be made to obtain additional specimens for comparison. Subsequent field operations in the salt-marshes bordering Monterey Bay have proven successful and reveal the presence in that region not only of an hitherto unknown race of the *Sorex ornatus* group of shrews, but one of the *Sorex vagrans* group as well. These two new subspecies may be named and diagnosed as:

***Sorex vagrans paludivagus*, subsp. nov.**

PALUSTRINE WANDERING SHREW.

Type.—♂ adult, skin and skull, no. 5053, Los Angeles Museum of History, Science and Art, from the salt-marsh at the mouth of Elkhorn Slough, Moss Landing, Monterey County, California, November 3, 1938, collected by Jack C. von Bloeker, Jr., orig. no. 9456.

Distribution.—In so far as known, confined to coastal salt-marsh areas in west-central California, from San Gregorio, San Mateo County, south at least to Seaside Lagoon, Monterey County. Probably also occurs in the salt-marshes on the seaward side of the San Francisco Peninsula as far north as Rockaway Beach, San Mateo County, and on the Monterey Peninsula as far south as Point Pinos, Monterey County.

Diagnosis.—A moderately large (see measurements), darkly colored,

long-tailed shrew of the *vagrans* group, pelage shining black dorsally and mouse gray ventrally, ears brown, tail unicolor, light seal brown; skull short and relatively broad in cranial region, narrow in rostral region.

Comparisons.—Compared with *Sorex vagrans vagrans*, larger in external measurements, color darker (winter-taken skins of *vagrans* being lighter in color than summer-taken skins of *paludivagus*); skull actually and relatively shorter and broader, palatal length and interorbital breadth greater, cranial height less. Compared with *Sorex vagrans halicoetes*, larger in external measurements, color darker (winter-taken skins of *halicoetes* average slightly darker than summer-taken skins of *paludivagus*); skull actually and relatively shorter, broader cranially and narrower rostrally, palatal length greater, maxillary breadth and cranial height less, maxillary tooth row shorter.

Color (using color terms from Ridgway, *Color Standards and Color Nomenclature*, 1912).—Type (in winter pelage): Dorsal hairs with basal portions dark neutral gray, extremely narrow subterminal bands ivory yellow, terminal portions black; ventral hairs slate color basally, tipped with deep mouse gray; hairs of ears bone brown; tail unicolor, hairs near light seal brown; hairs at base of vibrissae and vibrissae in basal two-thirds black, apical portions of vibrissae cinereous.

In summer pelage the hairs of the sides are bone brown in the subterminal bands, leaving a sharply defined darker dorsal band which approaches the dark coloration of the dorsal and lateral regions of winter-taken specimens; ventrally the hairs are tipped with clove brown, as opposed to the deep mouse gray of the ventral pelage of winter-taken specimens.

Measurements (in millimeters).—Averages and extremes of six adults (4 males and 2 females), including the type and five paratypes: Total length, 115 (113–118); tail, 46.5 (42–48); hind foot, 14.5 (14–15). Skull: Condylbasal length, 16.3 (16.1–16.5); palatal length, 6.6 (6.4–6.7); cranial breadth, 8.2 (8.1–8.3); height of cranium, 4.8 (4.6–4.9); ratio, height to breadth of cranium, 58.5%; interorbital breadth, 3.4 (3.2–3.5); maxillary breadth, 4.5 (4.4–4.6); maxillary tooth row, 5.6 (5.5–5.7).

Specimens examined.—Seven, from the following localities in California: **Monterey County:** Moss Landing, 2¹; mouth of Salinas River, 2²; Seaside, 1². **San Mateo County:** San Gregorio, 2³.

Sorex ornatus salarius, subsp. nov.

SALINE MARSH SHREW.

Type.—♀ adult, skin and skull, no. 81548, Museum of Vertebrate Zoology, from the salt-marsh at the mouth of the Salinas River, Monterey County, California, August 13, 1937, collected by Jack C. von Bloeker, Jr., orig. no. 8504.

Distribution.—In so far as known, restricted to the coastal salt-marshes and adjacent sandhill regions of Monterey and Carmel bays in Monterey

¹ One in O. P. Silliman collection.

² O. P. Silliman collection.

³ Museum of Vertebrate Zoology.

County, California, from Moss Landing south to Carmel and east to Sugarloaf Peak, near the northwest base of the Gabilan Range.

Diagnosis.—A small (see measurements), darkly colored, long-tailed shrew of the *ornatus* group, pelage sepia color dorsally and drab gray ventrally; tail bicolor, seal brown above, cinereous below; skull short and relatively broad; brain-case relatively low and flat-topped.

Comparisons.—Compared with *Sorex ornatus ornatus*, smaller in external measurements, color darker; skull shorter and relatively broader. Compared with *Sorex ornatus californicus*, external measurements longer, color darker; skull relatively broader and cranial height less. Compared with *Sorex ornatus relictus*, smaller throughout, color paler. Compared with *Sorex ornatus salicornicus*, tail shorter, otherwise averages larger throughout; pelage of summer-taken skins darker, of winter-taken skins paler. Compared with *Sorex sinuosus*, externally smaller, color paler; skull averages broader and higher cranially.

Color.—Type (in summer pelage): Dorsal hairs with basal portions slate color, subterminal bands sepia, apical portions black; ventral hairs slate color basally, broadly tipped with drab gray; tail bicolor, dorsal hairs of tail seal brown, ventral hairs of tail, hairs of upper surface of hind feet and nasal vibrissae cinereous.

In winter pelage the dorsal body hairs are more broadly tipped with black and the ventral body hairs are narrowly tipped with smoke gray.

Measurements.—Averages and extremes of nine adults (7 males and 2 females), including the type and eight paratypes: Total length, 97 (95–101); tail, 34 (32–35); hind foot, 12 (12). Skull: Condylbasal length, 16.3 (16.1–16.4); palatal length, 6.3 (6.2–6.5); cranial breadth, 8.2 (8.1–8.3); height of cranium, 4.6 (4.5–4.7); ratio, height to breadth of cranium, 56%; interorbital breadth, 3.3 (3.2–3.4); maxillary breadth, 4.6 (4.5–4.7); maxillary tooth row, 5.9 (5.7–6.0).

Specimens examined.—Ten, from the following localities in Monterey County, California: Moss Landing (salt-marsh), 2; mouth of Salinas River (salt-marsh), 3⁴; Point Pinos (salt-marsh), 2; Carmel (sandhills), 1⁵; mouth of El Toro Canyon (sandhills), 1⁵; Sugarloaf Peak, 3 miles north-northeast of Natividad (sandhills), 1⁵.

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⁴ Type in Museum of Vertebrate Zoology, two in O. P. Silliman collection.

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